

What is claimed is:

1. A tubular assembly for a guide catheter comprising:
 - a. an inner tubular member having a proximal end, a distal end and a longitudinal surface;
 - 5 b. a support member disposed over a substantial portion of said longitudinal surface and conforming thereto, said support member having a distal end terminated proximal of said distal end of said inner tubular member; and,
 - 10 c. a plurality of discreet outer tubular member segments disposed over said inner tubular member and said support member in abutting relationship, wherein said plurality includes at least a first, second and third outer tubular member segment with
15 said second outer tubular member segment between said first and third outer tubular member segment and having a flexural modulus greater than said first and third outer tubular member segments, and wherein in combination said plurality of discreet
20 outer tubular members form an outer tubular member extending over at least a substantial portion of the length of said inner tubular member.
2. The tubular member of claim 1, wherein at least one
25 of said discreet outer tubular member segments are manufactured from a polymeric material.

3. The tubular member of claim 1, wherein all of said discreet outer tubular member segments are manufactured from a polymeric material.

5 4. The tubular member of claim 3, wherein said polymeric material is a polyether block amide.

10 5. The tubular member of claim 1, wherein said second outer tubular member segment has a flexural modulus greater than 49 Kpsi.

 6. The tubular member of claim 5, wherein said inner tubular member is manufactured from polytetrafluoroethylene.

15 7. The tubular member of claim 6, wherein said support member is a braided metallic member.

20 8. The tubular member of claim 1, wherein said discreet outer tubular member segments are heat fused to one another and to said inner tubular member.

 9. A guide catheter comprising:

- 25 a. an inner tubular member having a proximal end, a distal end and a longitudinal surface;
- b. a support member disposed over a substantial portion of said longitudinal surface and conforming

thereto, said support member having a distal end terminated proximal of said distal end of said inner tubular member; and,

- 5 c. a plurality of discreet outer tubular member segments disposed over said inner tubular member and said support member in abutting relationship, wherein in combination said plurality of discreet outer tubular members form an outer tubular member extending the length of said inner tubular member, said plurality of discreet outer tubular member segments include a soft tip zone outer tubular member, at least a portion of which extends proximally from said distal end of said inner tubular member, a distal section zone outer tubular member extending proximally from said soft tip zone outer tubular member, a transition zone outer tubular member extending proximally from said distal section zone outer tubular member, a secondary zone outer tubular member extending proximally from said transition zone outer tubular member, a mid-shaft zone outer tubular member extending proximally from said secondary zone outer tubular member and a proximal shaft zone outer tubular member extending proximally from said mid-shaft zone outer tubular member.

10. The guide catheter of claim 9, wherein the flexural modulus of said catheter in the portion having said secondary curve zone outer tubular member thereon is greater than about 49 Kpsi.

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11. The guide catheter of claim 10, wherein the flexural modulus of said catheter in the portion having said mid-shaft zone outer tubular member thereon is between about 30 and about 60 Kpsi.

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12. The tubular member of claim 9, wherein at least one of said discreet outer tubular member segments are manufactured from a polymeric material.

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13. The tubular member of claim 9, wherein all of said discreet outer tubular member segments are manufactured from a polymeric material.

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14. The tubular member of claim 13, wherein said polymeric material is a polyether block amide.

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15. The tubular member of claim 9, wherein at least some of said plurality of discreet outer tubular member segments have different flexibility characteristics so that when disposed over said inner tubular member, the flexibility of said tubular members varies over its length due to said

differences in outer tubular member segments.

16. The tubular member of claim 9, wherein said inner tubular member is manufactured from polytetrafluoroethylene.

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17. The tubular member of claim 16, wherein said support member is a braided metallic member.

18. The tubular member of claim 9, wherein said discrete outer tubular member segments are heat fused to one another and to said inner tubular member.

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19. A guide catheter comprising:

a. an inner tubular member having a proximal end, a distal end and a longitudinal surface;

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b. a support member disposed over a substantial portion of said longitudinal surface and conforming thereto, said support member having a distal end terminated proximal of said distal end of said inner tubular member; and,

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c. a plurality of discrete outer tubular member segments disposed over said inner tubular member and said support member in abutting relationship, wherein in combination said plurality of discrete outer tubular members form an outer tubular member extending the length of said inner tubular member,

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said outer tubular member segments having different flexibility characteristics so that as assembled said guide catheter has discreet segments of selected flexural modulus over the length thereof.

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20. The guide catheter of claim 19 wherein said plurality of discreet outer tubular member segments include a soft tip zone outer tubular member, at least a portion of which extends proximally from said distal end of said inner tubular member, a distal section zone outer tubular member extending proximally from said soft tip zone outer tubular member, a transition zone outer tubular member extending proximally from said distal section zone outer tubular member, a secondary zone outer tubular member extending proximally from said transition zone outer tubular member, a mid-shaft zone outer tubular member extending proximally from said secondary zone outer tubular member and a proximal shaft zone outer tubular member extending proximally from said mid-shaft zone outer tubular member.

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21. The guide catheter of claim 20, wherein the flexural modulus of said catheter in the portion having said secondary curve zone outer tubular member thereon is greater than about 49 Kpsi.

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22. The guide catheter of claim 21, wherein the flexural

modulus of said catheter in the portion having said mid-shaft zone outer tubular member thereon is between about 29 and about 67 Kpsi.

5 23. The guide catheter of claim 22, wherein the flexural modulus of said catheter in the portion having said soft tip zone outer tubular member thereon is between about 1 and about 15 Kpsi.

10 24. The guide catheter of claim 23, wherein the flexural modulus of said catheter in the portion having said distal section zone outer tubular member thereon is between about 2 and about 49 Kpsi.

15 25. The guide catheter of claim 24, wherein the flexural modulus of said catheter in the portion having said transition zone outer tubular member thereon is between about 13 and about 49 Kpsi.

20 26. The guide catheter of claim 25, wherein the flexural modulus of said catheter in the portion having said proximal shaft zone outer tubular member thereon is greater than about 49 Kpsi.

25 27. The tubular member of claim 20, wherein said inner tubular member is manufactured from polytetrafluoroethylene.

28. The tubular member of claim 27, wherein said support member is a braided metallic member.

5 29. The tubular member of claim 19, wherein said discreet outer tubular member segments are heat fused to one another and to said inner tubular member.